Express Label No. EL608147737US

Application

for

United States Letters Patent

SPECIFICATION

TO WHOM IT MAY CONCERN:-

BE IT KNOWN, THAT I, Suzan Hardy, a citizen of Canada, residing at 1806 - 9th Street, S.W., Calgary, Alberta, Canada, T2T 3C3, have invented or discovered certain new and useful improvements in:-

SUPPORT DEVICE

of which the following is a specification.

TITLE OF THE INVENTION

SUPPORT DEVICE

BACKGROUND OF THE INVENTION

This invention relates to a support device, usable for holding papers, portable computers, and activity sheets such as Bingo cards and the like, which device can be conveniently folded after use for storage and for transport.

Games such as Bingo are usually played with cards or sheets lying flat on horizontal support surfaces–i.e., tables–which in turn requires players to hunch over the table in an effort to view and to mark their playing cards. Such a configuration is both uncomfortable and tiring, especially for the elderly. Indeed, the same may be said of support surfaces for portable computers and for sheet-like materials of any kind. What is more, the viewing of reference materials that lie horizontal is exceptionally difficult for the visually impaired due to the distance of the materials from the viewer, to paper glare, and to the angle at which users of bifocal lenses must crane their necks to view the materials through the bifocal lense channel.

Collapsible devices providing portable, angled working surfaces made of foldable sheet material are known. It is generally found, however, that these devices are wanting in terms of convenience, sturdiness, and economy given their construction and the materials required therefor. Examples of such devices include Aquino U.S. Patent 4,607,817 issued August 26, 1986, which discloses a collapsible podium, but lacks adequate support for its working surface, making the use of activity sheets on the podium difficult; Mardak U.S. Patent 4,709,895 issued December 1, 1987 which teaches a portable viewing stand which exhibits a common problem found in the securing means for holding devices of this nature in their operable positions–the securing means being in the form of cumbersome stop elements that add to the expense of the

invention and tend to discourage mobility of the device in its operable position; Writ et al. U.S. Patent 4,502,658 issued March 5, 1985 which discloses a collapsible retainer for Bingo sheets, and Marker, which retainer manifests still another common problem as it folds in a manner that results in a bulky or awkward collapsed device which, in turn, taxes transport.

Also of background interest is Guenther U.S. Patent 3,794,284 issued February 26, 1974 and Wyatt Canadian Industrial Design 55400, registered December 17, 1985.

It is therefore evident that a need is present for a portable, foldable support device that has universal utility; provides a solid and sturdy working surface when in use; is light-weight and inexpensive; is easily foldable into an operative configuration; and is easily foldable into a compact, convenient carrying and storage orientation.

SUMMARY OF THE INVENTION

It is a primary object of this invention to provide a portable, foldable support device for activity sheets and the like that manifests stability and accessability while in an operative configuration, but folds simply and easily for transport and for storage.

These and other objects of the invention will become apparent throughout the specification.

The present invention relates to a portable, foldable, support device comprising planar, parallel, upper and lower sheets separated by integrally-formed, spaced, parallel ribs laterally extending between the sheets from one side edge of the sheets to an opposite side edge. The upper sheet has a plurality of linear cuts running through it from the one side edge to the opposite one, each cut being between a different adjacent pair of the ribs to permit the folding of the device about a corresponding fold line in the lower sheet formed between those same ribs. The

cuts and corresponding fold lines are of a number and spaced so as to form, in sequence, a working surface panel, an elevation panel, a support panel, and a lip panel. The panels are foldable about the fold lines in the lower sheet, in one direction out of the plane of the sheets, into an operative configuration so that the working surface panel is upwardly and rearwardly inclined with respect to a horizontal support surface, with the working surface panel being supported at a lower front edge of the working surface panel on a horizontal support surface and at its upper rear edge by the other panels. The panels are held in an operable configuration by releasable securing means.

In a preferred embodiment, the upper sheet of the working surface panel is further provided near its rear edge with clip means for reasonably securing activity sheets in position on the working surface panel. the releasable securing means are located on confronting surfaces of the upper sheet of the lip panel and the lower sheet of the working surface panel. The connection between the lip and support panel lends further support to the integrity of the working surface panel by absorbing pressure and shock at approximately the midpoint of the working surface panel and transferring much of the force through the support panel to the point where the support panel meets the horizontal working surface.

This device is preferably constructed so that the panels are foldable into a flat, storable and carrying orientation by folding the elevation panel, the support panel, and the lip panel, in one plane, about the fold line separating the working surface panel and the elevation panel. The lower sheet of the support panel then confronts the lower sheet of the working surface panel, and releasable securing means positioned at the confronting positions indicated releasably hold the support panel and the working surface panel together, thereby configuring the device in a storage and carrying orientation.

Friction means may also be affixed to portions of the lower sheet of the working surface

panel near the lower front edge of the same and to supporting surfaces of the other panels to encourage immobility of the device when resting on a horizontal support surface.

The device herein described in its operable position provides elevated support for all manner of reference materials, books, portable computers, activity sheets and the like, while further affording stable and firm positioning for such material objects.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other advantages of the invention will become apparent upon reading the following detailed description and upon referring to the drawings in which:-

FIG. 1 is a perspective view of the support device in its operable configuration;

FIG. 2 is a side elevation view of the device of FIG. 1 in operable orientation;

FIG. 3 is a perspective view of the upper sheet device in an unfolded position;

FIG. 4 is a perspective view of the lower sheet of the device in an unfolded position;

FIG. 5 is a side view of the device in the storable and carrying orientation.

While the invention will be described in conjunction with illustrated embodiments, it will be understood that it is not intended to limit the invention to such embodiments. On the contrary, it is intended to cover all alternatives, modifications and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the drawings, similar features have been given similar reference numerals.

Referring to **FIGS 1 and 2**, there is illustrated a portable, foldable support device **10**

according to the present invention set up in the operable position. The device is formed from two, spaced, parallel, generally rectangular sheets of thin plastic-like material, an upper sheet **11** and a lower sheet **12**. Each sheet is circumscribed by longitudinal side edges **13**, a front edge **14** and a back edge **15**.

The upper sheet **11** and the lower sheet **12** are separated by parallel spaced, linear ribs **16** laterally extending between opposite side edges **13**. As can be seen in **FIG. 3**, cuts **17, 18,** and **19** extend through the upper sheet **11** between the side edges **13** and between an adjacent pairs of ribs **16** to permit folding of the device respectively about fold lines **20, 21,** and **22** in the lower sheet **12** to permit the folding of the device **10** into operable position.

These cuts and fold lines form a working surface panel **23**, an elevation panel **24**, a support panel **25**, and a lip panel **26**. As can be seen in **FIGS. 1** and **2**, the device is folded into its operable position by folding the device about the fold lines **20, 21, 22** in one direction, so that the working surface panel **23** is upwardly and rearwardly inclined with respect to a horizontal support surface **27**. In this position, the device **10** is elevated by the elevation panel **24** and supported by support panel **25**. Support panel **25** is angled with respect to the support surface **27** and abuts lip panel **26** which is folded so its upper sheet **11** confronts and is releasably secured to the lower sheet **12** of the working surface panel **23** at approximately the latter's midpoint, from one side edge **13** of the working surface panel **23** to the other side edge **13** of the same. This construction lends support to the integrity of the working surface panel **23** by absorbing physical pressure and shock at approximately the midpoint of the said working surface panel **23** and transferring much of the generated energy through the support panel **25** to the point where the said support panel **25** meets a horizontal support surface **27**, as can be seen in **FIG 2**. To encourage immobility of the device when it rests on a horizontal support surface **27**, friction

pads **28** are affixed to rear portions of the upper sheet **11** of the support panel **25**, and to portions of the lower sheet **12** of the working surface panel **23** near the front edge **14**.

Releasable securing means, such as hook and pile fasteners **29**, are positioned on confronting portions of the lower sheet **12** of the working surface panel **23,** at approximately the midpoint, and of the upper sheet **11** of the lip panel **26** to secure, releasably, the device **10** in its operable position.

A plurality of clips **30** are affixed as illustrated to the upper sheet **11** of the working surface panel **23** near the back edge **15** for holding activity sheets **32** such as bingo playing cards in position on the working surface panel **23**. The clips **30** may be of any construction appropriate for releasably gripping the activity sheet **32**, and in the illustrated embodiment, as illustrated in **FIG 1**, each has an upper jaw **33** with a plurality of teeth-like rows which interact with corresponding teeth-like rows jutting from the bottom jaw **34** to hold in position a Bingo card or the like when the clips are closed. The upper jaw **33** is movable in a hinge-like manner so as to close and to lock, releasably, with the bottom jaw **34** so as to hold the activity sheets **32** in position on the upper surface **11** of working surface panel **23**.

FIG. 5 illustrates the support device **10** secured in the storage and carrying orientation. To achieve this orientation, lip panel **26**, elevation panel **24**, and support panel **25** are folded, in one plane, about the fold line **20** separating the working surface panel **23** and the elevation panel **24** so that the lower sheets **12** of lip panel **26**, elevation panel **24**, and support panel **25** confront the lower sheet **12** of the working surface panel **23**. Releasable securing means, such as hook and pile fasteners **29** are correspondingly positioned on the lower sheet **12** of the support panel **25** and on the lower sheet **12** of the working surface panel **23** matably to secure to each other to hold the support device **10** in the storage and carrying orientation as shown in **FIG. 5**.

Materials employed in constructing the support device **10** should be of sufficient structural rigidity so as to permit the use of activity cards **32** such as bingo cards atop the working surface panel **23** and insofar as lower sheet **12** is concerned, of sufficient flexibility to enable its folding along the fold lines **20, 21, 22** without splitting. Sheets **11** and **12**, and ribs **16** may preferably be integrally formed from a suitable plastic.

From the foregoing detailed description it will be apparent that there has been disclosed a portable and foldable device that provides an elevated working surface able to hold a wide variety of items such as reference materials, books, portable computers, newspapers, drawing or sketching tablets, textiles, activity sheets and the like, the device is light-weight and easy to carry and to store, promotes enhanced vision and stability of objects on it, and is inexpensive. It can be used in a variety of environments for a variety of applications including: as a laptop desk which conveniently folds flat; as a Bingo Card holder (various sizes are possible to hold, for example, from 6 to 24 cards); for reading newspapers (may be sized for newspapers); for writing or reading; for secretarial use (holds papers that may be pulled off one-at-a-time); teachers' aid (may be used as a desktop podium); for artists (may be used as a drawing board and portable sketching table); for knitters/crochet (patten holder); for truck drivers (may be used for holding trip logs, maps, manifests); for accountants (may be used for holding data holders); and for the vision-impaired who may use this device as a visionary aid.

In addition, the versatility of the device is enhanced by the fact that, in its operable position, the device may be placed to rest on its elevation panel and used as a typing or viewing stand with the working surface panel facing the user and the clips then at the bottom of the panel, the clips then allowing paper and like material to be held in place for greater ease of reference.

While the above description describes a preferred embodiment, it is to be understood that this description is meant to be illustrative and not limiting, and that the scope of the invention

is defined by the claims as follows.